

**REMARKS**

Claim 55 is herein cancelled without prejudice or disclaimer. Claims 37 - 40 and 42 - 54 and 56 - 58 are presently pending in the application. Claims 37 - 40, 42 - 49, 51, 54 and 58 are herein amended. Applicant expresses gratitude to the Examiner for the statement of allowable subject matter as noted at page 10 of the instant Office Action. Applicant respectfully requests holding rewriting the claims in abeyance (so as to meet the Examiner's noted allowable subject matter) so that the Examiner may fully consider the averments herein.

**I. 35 U.S.C. § 112, 2<sup>nd</sup> Paragraph Rejection**

Claims 37, 38 and 44 stand rejected for allegedly being indefinite. In response, claims 37, 38 and 44 have been amended. Applicant respectfully asserts that such amendment transverses this indefiniteness rejection, as explained below.

Claims 37 and 38 have been rewritten in independent form, obviating the rejection that a portion of each claim is duplicative of a portion of claim 42 (upon which claims 37 and 38 previously depended). Claim 44, while remaining dependent upon claim 42, has been amended to not include the duplicative subject matter of claim 42.

Claims 39, 40, 42, 43, 44, 45, 46, 48, 49, 51, 54, 55 and 58 stand rejected for lack of antecedent basis. Claim 55 stands cancelled, obviating the antecedent rejection as to that claim. Claims 39, 40, 42, 43, 44, 45, 46, 48, 49, 51, 54 and 58 have been amended to correct the antecedent basis problems of each stated claim.

**II. Claim Rejection -- 35 U.S.C. § 102**

Claims 37, 38, 42 - 46, 49 - 51, 54, 55 and 57 stand rejected as allegedly being unpatentable in view of U.S.P. No. 4,998,422 ("Borgmann"). For the following reasons, this rejection is respectfully traversed.

Claim 55 is herein cancelled, obviating the rejection as to that claim.

Independent claims 37 and 38 recite (among other things) the cam including opposing pairs of shoulders, said opposing pairs of shoulders separated by a bridge that spans a distance of the cam, said distance being the substantial diameter of a bottom portion of the cam which is orthogonal to an axis of rotation of the cam and is nearest to the second end surface of the casing. At least because the prior art relied upon in the grounds of rejection fails to include this limitation, it is respectfully asserted that these claims are patentable. *See* Fig. 6, elements 48 and 49 (multiple drive recesses); elements 51 and 52 (opposed drive shoulders); and element 50 (bridge separating the opposing pairs of shoulders).

Borgmann recites elevated portion 66 (Fig. 5) including shoulders 84 and 82 in recess 78. Instead of having opposing pairs of shoulders, Borgmann has only one, contiguous pair of shoulders. Further, Borgmann's shoulders 84 and 82 are not separated by the elevated portion 66. Moreover, Borgmann fails to teach or suggest multiple recesses, instead possessing only one recess 78. At least for these reasons, it is respectfully requested that the Examiner reconsider and withdraw this anticipation rejection.

Similarly to the previous, independent claim 42 recites (among other things) at least two drive recesses separated by spaced drive shoulders, said spaced drive shoulders including a first drive shoulder and a second drive shoulder for each drive recess. *See* Figure 6, elements 48 and

49 (multiple drive recesses); elements 51 and 52 (opposed drive shoulders); and element 50 (bridge separating the opposing pairs of shoulders).

As noted above, the prior art relied upon in the grounds of rejection fails to teach or suggest at least two drive recesses separated by spaced drive shoulders, wherein each drive recess possesses a first and second shoulder. Accordingly, the Examiner is respectfully requested to reconsider and withdraw this anticipation rejection.

Dependent claims 43 - 46, 49 - 51, 54 and 57 depend from claim 42 and are asserted as being patentable by virtue of their dependence (as well as in addition to the limitations recited therein).

### **III. Claim Rejection -- 35 U.S.C. § 103**

Claims 40, 48, 52, 56 and 58 stand rejected as allegedly unpatentable under 35 U.S.C. § 103(a) in view of U.S.P. No.s 4,998,422 ("Borgmann") and 5,377,511 ("Meckbach") (cumulatively, "the prior art"). For the following reasons, this rejection is respectfully traversed.

Independent claim 40 recites (among other things) that the cam includes opposing pairs of shoulders, said opposing pairs of shoulders separated by a bridge that spans a distance of the cam, said distance being the substantial diameter of a bottom portion of the cam which is orthogonal to an axis of rotation of the cam and is nearest to the second end surface of the casing. Similarly, independent claim 42 (upon which claims 48, 52, 56 and 58 depend) recites (among other things) at least two drive recesses separated by spaced drive shoulders, said spaced drive shoulders including a first drive shoulder and a second drive shoulder for each drive recess. *See*

Figure 6, elements 48 and 49 (multiple drive recesses); elements 51 and 52 (opposed drive shoulders); and element 50 (bridge separating the opposing pairs of shoulders).

Analogous to the arguments in Part II of this paper, it is respectfully asserted that the prior art relied upon in the grounds of rejection fails to teach or suggest the previous. Accordingly, the Examiner is respectfully requested to reconsider and withdraw this obviousness rejection.

Moreover, the grounds of rejection state on page 10 of the instant Office Action that Meckbach discloses the use of a longitudinal channel (14) in the longer leg of the shackle. Applicant respectfully but stridently asserts that Meckbach entirely fails to teach or suggest a longitudinal channel in the longer leg of the shackle. While element 14 in Meckbach is a flat portion as is generally used in the prior art, nowhere in Meckbach is there mention of a channel in the shackle.

#### **IV. Conclusion**

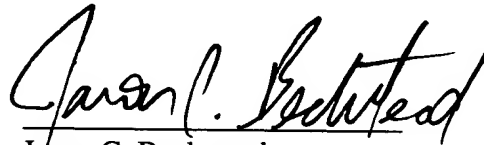
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

U.S. Application No. 09/883,131

Attorney Docket No. Q71763  
Amendment Under 37 C.F.R. § 1.116

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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PATENT TRADEMARK OFFICE

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**APPENDIX**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**Claim 55 is canceled.**

**The claims are amended as follows:**

37. (Amended) A padlock, including a shackle ~~as claimed in claims 42~~ having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said longer leg being connected by a longitudinally elongated recess ~~or flat~~ to a peripheral recess disposed towards the end of the longer leg,

and a casing including a body having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface and intersecting the central recess, the intersection defining a first and a second longitudinally elongated cusp portions, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position enabling key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball able to protrude into the longer recess and second locking recess,

a cam to control the balls, and a coupler to facilitate operable coupling between the cam and the cylinder,

the coupler being mountable within the body to provide a Type 1 padlock characterized by an unlocked, open configuration where the short leg is free of the casing, the longer leg is supported in the casing and the key is removable,

the coupler being mountable within the body to provide a Type 2 padlock characterized by an unlocked, open configuration where the short leg is free of the body, the longer leg is supported in the body casing and the key and barrel cannot be rotated to the undisplaced position to enable key removal,

wherein the cam includes a first cam portion comprising a substantially cylindrical portion defined by a peripheral, side, curved surface and having a longitudinal axis coaxial with the cam axis of rotation and which is parallel with and between the longitudinal axii of the short and longer recess in the casing,

the first cam portion having a removal configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated, side, third recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg, wherein the coupler includes fingers and the cam includes opposing pairs of shoulders, said opposing pairs of shoulders separated by a bridge that spans a distance of the cam, said distance being the substantial diameter of a bottom portion of the cam which is orthogonal to an axis of rotation of the cam and is nearest to the second end surface of

the casing, each finger in the removal configuration of the cam ~~abuts~~ abutting an associated ~~second~~ drive shoulder,-

and wherein the cam is rotatable in the unlocking direction to the removal configuration, said rotation of the cam rotatable to a stopping point ~~while the stop remains in the second operative configuration,~~

said removal configuration corresponding to the ~~short~~ long leg being capable of being free of the casing,-

said cam in a locking configuration presenting the curved surface to each ball to retain the balls in the locking recesses,

said cam in the unlocking configuration presenting a longitudinally elongated, side, first unlocking recess to the first ball and a longitudinally elongated, side, second unlocking recess to the second ball to enable the first ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess ~~or the flat~~ or partly within the peripheral recess.

38. (Amended) A padlock, including a shackle ~~as claimed in claim 42~~ having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said longer leg opposed second locking recess being connected by a longitudinally elongated recess ~~or flat~~ to a peripheral recess disposed towards the end of the longer leg,

and a casing having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the



casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface and intersecting the central recess, the intersection defining a first and a second vertically longitudinally elongated cusp portion, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position enabling key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball able to protrude into the longer recess and second locking recess,

a cam to control the balls,

the angular disposition of the cam in the locking and unlocking configurations being determined by a stop comprising a disc-like member supported coaxially with and relative to the cam, and being angularly displaceable relative to the cam, and having a stop shoulder which protrudes into the offset recess, said stop having a first operative configuration where the stop shoulder abuts the wall of the offset recess adjacent the first cusp and a second operative configuration where the stop shoulder abuts the opposite wall of the offset casing adjacent the second cusp,

the padlock being characterized by:

a closed, locked configuration corresponding to the stop being in the first operative configuration, the short and longer legs being supported in the casing and restrained from

displacing relative to the casing, the cam being in a locking configuration and retaining the first ball partly within the first locking recess and the second ball being partly within the second locking recess,

the cam and stop member being rotateable in an unlocking direction by the cylinder to displace the padlock to an unlocked configuration, and an open, unlocked configuration corresponding to the stop being in the second operative configuration, the short leg being free of the casing, the longer leg being supported in the casing, the cam being in an unlocking configuration and retaining the second ball partly within the longitudinally elongated recess ~~or~~ ~~flat~~ or partly within the peripheral recess,

and wherein the cam includes a first cam portion comprising a substantially cylindrical portion defined by a peripheral, side, curved surface and having a longitudinal axis coaxial with the cam axis of rotation and which is parallel with and between the longitudinal axii of the short and longer recess in the casing,

wherein the first cam portion has a removal configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated, side, third recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg,

the cam being rotatable in the unlocking direction to the removal configuration while the stop remains in the second operative configuration, said removal configuration corresponding to the ~~short~~ long leg being capable of being free of the casing, and wherein the disk-like member includes fingers, each of said fingers ~~each finger~~ in the removal configuration of the cam ~~abuts~~

abutting an associated ~~second~~ drive shoulder of said cam, the cam further including opposing pairs of shoulders, said opposing pairs of shoulders separated by a bridge that spans a distance of the cam, said distance being the substantial diameter of a bottom portion of the cam which is orthogonal to an axis of rotation of the cam and is nearest to the second end surface of the casing,

said cam in a locking configuration presenting the curved surface to each ball to retain the balls in the locking recesses,

said cam in the unlocking configuration presenting a longitudinally elongated, side, first unlocking recess to the first ball and a longitudinally elongated, side, second unlocking recess to the second ball to enable the first ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess ~~or the flat~~ or partly within the peripheral recess.

39. (Amended) A padlock, including a shackle having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said ~~longer leg~~ opposed second locking recess being connected by a longitudinally elongated recess ~~or flat~~ to a peripheral recess disposed towards the end of the longer leg, ~~the shackle also having at least one locking recess having a surface comprising a portion or portions of surfaces of revolution in which the axis of revolution defining the surface intersects the body of the leg and where the surface of the recess extends in all directions from the axis,~~

and a casing comprising a body and having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central

recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface,

and an intersection intersecting the central recess, the intersection defining a first and a second longitudinally elongated cusp portions, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position enabling key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball able to protrude into the longer recess and second locking recess,

a cam to control the balls, and a coupler to facilitate operable coupling ~~25~~ between the cam and the cylinder,

the coupler being mountable within the body to provide a Type I padlock characterized by an unlocked, open configuration where the short leg is free of the casing, the longer leg is supported in the casing and the key is removable,

the coupler being mountable within the body to provide a Type 2 padlock ~~30~~ characterized by an unlocked, open configuration where the short leg is free of the body, the longer leg is supported in the body casing and the key and barrel cannot be rotated to the undisplaced position to enable key removal,

wherein the cam includes a first cam portion comprising a substantially cylindrical portion defined by a peripheral, side, curved surface and having a longitudinal axis coaxial with

the cam axis of rotation and which is parallel with and between the longitudinal axii of the short and longer recess in the casing, and wherein the first cam portion is integrally connected to a cam drive portion relatively disposed towards the casing second end surface,

and wherein said drive portion comprises ~~ing~~ two opposed drive recesses having coplanar floors wherein the plane of the drive recesses is orthogonal to the axis of rotation of the cam, said drive recesses being on opposite sides of the cam axis of rotation and being ~~defined~~ separated by ~~an axial between~~ a bridge comprising opposed walls, each wall having a first engageable drive shoulder at one end and a second engageable shoulder at the other end, said bridge having opposed ~~part~~ cylindrical portions to support ~~the~~ a disc-like member which has an aperture of substantially circular cross-section interrupted by at least one inwardly protruding finger engageable with the first drive shoulder, wherein each finger abuts the first drive shoulder when the cam is in the locked and unlocked configurations,

said cam in a locking configuration presenting the curved surface to each ball to retain the balls in the locking recesses,

said cam in the unlocking configuration presenting a longitudinally elongated, side, first unlocking recess to the first ball and a longitudinally elongated, side, second unlocking recess to the second ball to enable the first ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess ~~or the flat~~ or partly within the peripheral recess,

wherein the ~~first~~ first cam portion has a removal configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated, side, third

recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg,

~~and wherein the cam is rotatable in the unlocking direction to the removal configuration while the stop remains in the second operative configuration,~~

said removal configuration corresponding to the ~~short~~ long leg being capable of being free of the casing.

40. (Amended) A padlock, including a shackle having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said ~~longer leg~~ opposed second locking recess being connected by a longitudinally elongated recess ~~or flat~~ to a peripheral recess disposed towards the end of the longer leg, ~~the shackle also having at least one locking recess having a surface comprising a portion or portions of surfaces of revolution in which the axis of revolution defining the surface intersects the body of the leg and where the surface of the recess extends in all directions from the axis,~~

and a casing having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface,

and an intersection intersecting the central recess, the intersection defining a first and a second vertically longitudinally elongated cusp portion, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced ~~10~~ position, said undisplaced position enabling key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball able to protrude into the longer recess and second locking recess,

a cam to control the balls,

~~the~~ an angular disposition of the cam in ~~the~~ both a locking and unlocking configurations of the padlock being determined by a stop comprising a disc-like member supported coaxially with and relative to the cam, and being angularly displaceable relative to the cam, and having a stop shoulder which protrudes into the offset recess, said stop having a first operative configuration where the stop shoulder abuts the wall of the offset recess adjacent to the first cusp and a second operative configuration where the stop shoulder abuts the opposite wall of the offset casing adjacent to the second cusp,

the padlock being characterized by:

a closed, locked configuration corresponding to the stop being in the first operative configuration, the short and longer legs being supported in the casing and restrained from displacing relative to the casing, the cam being in a locking configuration and retaining the first ball partly within the first locking recess and the second ball being partly within the second locking recess,

the cam and stop member being rotateable in an unlocking direction by the cylinder to displace the padlock to an unlocked configuration, and

an open, unlocked configuration corresponding to the stop being in the second operative configuration, the short leg being free of the casing, the longer leg being supported in the casing, the cam being in an unlocking configuration and retaining the second ball partly within the longitudinally elongated recess ~~or flat~~ or partly within the peripheral recess,

and wherein the cam includes a first cam portion comprising a substantially cylindrical portion defined by a peripheral, side, curved surface and having a longitudinal axis coaxial with ~~the cam~~ an axis of rotation of the cam and which is parallel with and between ~~the~~ longitudinal axii of the short and longer recess in the casing, and wherein the first cam portion has a removal configuration enabling the removal of the shackle,

said cam in a locking configuration presenting the curved surface to each ball ~~to~~ to retain the balls in the locking recesses,

said cam in the unlocking configuration presenting a longitudinally elongated, side, first unlocking recess to the first ball and a longitudinally elongated, side, second unlocking recess to the second ball to enable the first ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess ~~or the flat~~ or partly within the peripheral recess,

and wherein the cam in the removal configuration presents a longitudinally elongated, side, third recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg,

and wherein the cam is rotatable in the unlocking direction to the removal configuration while the stop member remains in the second operative configuration,



said removal configuration corresponding to the ~~short~~ long leg being capable of being  
free of the casing,

and further wherein the cam includes opposing pairs of shoulders, said opposing pairs of  
shoulders separated by a bridge that spans a distance of the cam, said distance being the  
substantial diameter of a bottom portion of the cam which is orthogonal to an axis of rotation of  
the cam and is nearest to the second end surface of the casing.

42. (Amended) A padlock, including a shackle having a short leg with a first  
locking recess and a longer leg having an opposed second locking recess, said ~~longer leg~~  
opposed second locking recess being connected by a longitudinally elongated recess ~~or flat~~ to a  
peripheral recess disposed towards the end of the longer leg,

and a casing having a short and a longer recess extending into the casing from a first end  
surface to accept the short and longer shackle leg respectively, a central recess extending into the  
casing from an opposed second end surface, an offset recess extending into the casing from the  
opposed second end surface and intersecting the central recess, the intersection defining a first  
and a second longitudinally elongated cusp portions, said short, longer and central recesses being  
intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position enabling  
key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball to protrude into the longer recess and second locking recess,

a cam including a first cam ~~position~~ portion to control the balls and a cam drive portion that includes at least ~~one~~ two drive recesses ~~defined between~~ separated by spaced drive shoulders, said spaced drive shoulders including a first drive shoulder and a second drive shoulder for each drive recess and at least one additional drive recess,

the cam operable by the barrel through an interspaced ~~coupler~~ coupler that projects into ~~the additional recess~~ holes within of the cam while being supported in ~~the~~ a barrel drive recess to provide a Type 2 padlock,

the cam being further operable by a the barrel through an interspaced coupler that projects into at least one of the at least two drive recesses ~~between~~ separated by the spaced drive shoulders of the cam without projecting into said holes within the cam while being supported in a barrel drive recess to provide a Type 1 padlock,

said Type 1 padlock being characterized by an open configuration where the short leg is free of the casing, the longer leg is supported in the casing and the key is removable,

said Type 2 padlock being characterized by an open configuration where the short leg is free of the body, the long leg is supported in the body casing and the key and barrel cannot be rotated to the undisplaced position to enable key removal.

43. (Amended) A padlock according to claim 42, wherein the first cam portion comprisesing a substantially cylindrical portion having a peripheral curved side surface defined in part by a longitudinal axis coaxial with ~~an the cam~~ axis of rotation of the cam and which is parallel with and between the longitudinal axii of the short and longer recess in the casing,

said cam in a locking configuration presenting the curved side surface to each ball to retain each ball in its corresponding locking recess,

said cam in the unlocking configuration presenting a longitudinal elongated, first unlocking side recess to the first ball and a longitudinally elongated second unlocking side recess to the second ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess ~~or the flat~~ or partly within the peripheral recess.

44. (Amended) A padlock according to Claim 42, wherein ~~the casing has a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface and intersecting the central recess, the intersection defining a first and a second longitudinally elongated cusp portions, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,~~

the angular disposition of the first cam portion in the locking and unlocking configurations ~~being~~ is determined by a stop member being mechanically part of the motion of

the cam, said stop member being an outwardly projecting finger of the ~~and comprising a disc-like~~  
member supported coaxially with and relative to the first cam portion, said stop member ~~having a~~  
~~stop shoulder which protrudes~~ protruding into the offset recess, said stop member being  
displaceable between a first operative configuration where the ~~stop shoulder~~ outwardly  
projecting finger abuts the wall of the offset recess adjacent the first cusp and a second operative  
configuration where the ~~stop shoulder~~ outwardly projecting finger abuts the opposite wall of the  
offset casing ~~adjacent second cusp~~

the padlock being characterized by:

a locked configuration corresponding to the stop member being in the first operative  
configuration, the short and longer legs being supported in the casing and restrained from  
displacing relative to the casing, the cam being in a locking configuration retaining the first ball  
partly within the first locking recess and the second ball being partly within the second locking  
recess,

the cam and stop member being rotateable in an unlocking direction by the cylinder to  
displace the padlock to an unlocked configuration, and

an open, unlocked configuration corresponding to the stop being in the second operative  
configuration, the short leg being free of the casing, the longer leg being supported in the casing,  
and the cam being in an unlocking configuration retaining the second ball partly within the  
longitudinally elongated recess ~~or flat~~ or partly within the peripheral recess.

45. (Amended) A padlock according to Claim 42, configured as a Type 1 padlock, wherein the coupler is displaceable about ~~an the barrel~~ axis of rotation of the barrel to displace the cam to the unlocking configuration and the barrel and key to subsequently be returned to the undisplaced position while ~~the a~~ drive pin correspondingly displaces freely within the space between the drive shoulders.

46. (Amended) A padlock according to Claim 42, configured as a Type 2 padlock, wherein the coupler is displaceable about ~~the barrel~~ an axis of rotation of the barrel to displace the cam to the unlocking configuration whereupon the barrel and key become restrained from displacing to the undisplaced position.

47. (Amended) A padlock according to Claim 45, wherein ~~there is an opposed pair of drive shoulders, opposed additional drive recesses in the cam and the coupler correspondingly includes~~ comprises an opposed pair of drive pins supported by the barrel,

said drive pins having passage through while being supported in a support disc to comprise the coupler, the drive pins being configured to protrude more from one side of the support disc than the other and additionally being configured so that when assembled into the padlock casing with the longer ends towards the cam, they protrude into the ~~additional drive recesses~~ holes in the cam whereby to provide a Type 2 padlock, and when assembled into the padlock casing with the shorter ends towards the cam, ~~they~~ the drive pins protrude into the space between the drive shoulders but not into the ~~additional drive recesses~~ holes in the cam whereby to provide a Type 1 padlock.

48. (Amended) A padlock according to Claim 43, wherein the first cam portion has a removable configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated third side recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg,

said removal configuration corresponding to the ~~short~~ long leg being capable of being free of the casing.

49. (Amended) A padlock according to Claim 43, including a torsion spring supported about ~~the~~ a bridge, said bridge comprised of said drive shoulders, said torsion spring having one end attached to the cam and ~~the other~~ another end within the offset recess to bias the cam towards the locking configuration.

51. (Amended) A padlock according to Claim 42, wherein the cylinder is removable to provide accessibility to the cam to enable it to be displaced to ~~the~~ a removal configuration wherein the shackle is removeable.

54. (Amended) A padlock according to Claim 42, wherein ~~the cylinder~~  
~~comprising a pin cylinder having a casing with pin chambers extending from the surface of the~~  
~~casing, and wherein adjacent chambers adjacent to the surface of the casing are joined by a~~

~~channel, said channel accommodating a resilient elongated strip extending between the chambers~~  
~~and having substantially cylindrical portions extending one into each chamber~~ the cylinder is  
removeable, said cylinder possessing a number of transverse pin chambers in a housing, said pins  
extending from a portion of the outer surface of the housing to meet coaxially with a pin  
chamber in the barrel when the key is removed,

further including apertures at the surface of the pin chambers wherein the apertures are  
plugged with a resilient material, said resilient material comprising plastic extensions which  
extend from one pin chamber aperture to the next, filing all pin chamber apertures,

said resilient material being radially compressible and exerting a radial force on the walls  
of the apertures of the pin chambers, and

being removeable for re-pinning of the pin chambers and re-insertable when re-pinning of  
the pin chambers is accomplished.

58. (Amended) A padlock shackle according to Claim 56, wherein ~~the~~ a cross-  
section of the channel cross-section is defined by a radius substantially the same as the radii of  
the balls.